



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Muller, K.

SERIAL NO.: 09/574,277

ART UNIT: 2833

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EXAMINER: Harvey, J.

TITLE: ELECTRICAL PLUG CONNECTOR PARTICULARLY FOR AUTOMOTIVE  
APPLICATIONS

ATTORNEY DOCKET NO.: C2359

502-009444-US (PAR)

ATTENTION: BOARD OF PATENT APPEALS AND INTERFERENCES  
Commissioner of Patents and Trademarks  
Washington, D.C. 20231BRIEF FOR APPELLANT

Sir:

This is an appeal brief in regard to the final rejection of the claims in the above-identified patent application. A notice of appeal was mailed to the USPTO on 01/17/2002. This brief is being filed in triplicate as required by 37 C.F.R. Section 1.192. The fee under 37 C.F.R. Section 1.17(f) of \$320.00 along with \$400.00 for a two-month extension of time is enclosed. The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

I. Real Party In Interest

The real party in interest is FCI USA, Incorporated.

## II. Related Appeals and Interferences

There are no directly related appeals or interferences regarding this application.

## III. Status of Claims

Claims 1 - 9 are pending in this Application. Claims 1, 4 and 5 have been finally rejected by the Examiner. Claim 3 has been allowed. Claims 2 and 6 - 9 are objected to. The rejection of claims 1, 4 and 5 is appealed.

## IV. Status of the Amendments

Since the final rejection of August 28, 2001, no amendments have been filed in this application.

## V. Summary of the Invention

The present invention is an electrical plug connector. The connector has a cylindrical plug (20) and a complimentary counterplug (1). A bayonet ring (2) is provided for locking the plug (20) into the counterplug (1) (page 4, lines 24 - 25 and figs. 1 and 2). The bayonet ring (2) is rotatable about the counterplug housing (3). A C-strap (24) is provided on the plug (20) to interface with outward pointing pins (4) on the bayonet ring (2) to grip the pins (4) and push the bayonet ring (2) over the plug housing (23) during locking of the connector (page 6, line 33 to page 7, line 3 and fig. 3a). The bayonet ring (2) has a locking device comprising three spring tongues (5, 6, 7), each with an inward pointing peg (8) (page 4, lines 25 - 27 and fig.

1). To lock the connector, the bayonet ring (2) is pushed on the plug housing (23) in the direction of plug insertion until the inward pointing pegs (8) of the bayonet ring (2) interlock with a channel (34) of the plug housing (23) (page 8, line 29 to page 9, line 23 and figs. 5a - 5d). To unlock the connector, the C-strap (24) is swivelled away and the bayonet ring (2) can be rotated about the counterplug housing (3) (page 7, lines 14 - 18 and fig. 3d).

#### VI. Issues

- A. Is claim 1 unpatentable under 35 U.S.C. 102(b) as being anticipated by Shuey et al. (US Patent 4,477,022)?
- B. Are claims 4 and 5 unpatentable under 35 U.S.C. 103(a) over Shuey et al. (US Patent 4,477,022), in view of Clark et al. (US Patent 5,913,691)?

#### VII. Grouping of Claims

The claims do not stand or fall together. There are two (2) groups of claims. The groups are as follows:

Group 1	Claim 1
Group 2	Claims 4 and 5

In accordance with 37 C.F.R. 1.192(c)(7), an explanation of why the claims of the groups are believed to be separately patentable is contained in the argument section below.

VIII. ArgumentGroup 1 (Claim 1)

Claim 1 calls for a bayonet ring (2) that can be pushed on the plug housing (23) in the direction of plug insertion until at least one locking device of the bayonet ring (2) interlocks with the plug housing (23). For unlocking the connector, the bayonet ring (2) can be rotated about the counterplug housing (3).

In Figs. 1-2, Shuey et al. (4,477,022), discloses a connector having a metal coupling ring (82) that is rotatable relative to housing (64) and has threads (84) for engagement with threads (24) of housing (16) to couple the connector. The metal coupling ring (82) must be rotated around housing (16) to provide mating between the plug (12) and receptacle (14) (see Column 3, lines 22 - 27). The metal threads (84) on the ring (82) and the mating metal threads (24) on housing (16) prevent the ring from being pushed on the housing in the direction of plug insertion (absent rotation). It is impossible to push the metal ring on the housing (over the threads) in the direction of plug insertion as the ring must be rotated, not pushed. As a result, there is no disclosure or suggestion of a bayonet ring that can be pushed on the plug housing in the direction of plug insertion until at least one locking device of the bayonet ring interlocks with the plug housing as called for in claim 1. The threaded ring (82) in Shuey et al. can not be pushed on the housing in the direction of insertion, much less be pushed until at least one locking device of the ring interlocks with the housing as claimed in the present invention. The threads on the threaded ring and housing in Shuey et al. prevent the ring from being pushed on the

housing in the direction of plug insertion, and thus merely pushing the ring against the housing interlocks nothing. Merely pushing the metal coupling ring on the housing in Shuey et al., causes the threads to contact the housing, not *interlock* with the housing as claimed in the present invention. In Shuey et al., threads 24 and threads 84 (see figure 2) are disclosed as a screw locking system only, and are not disclosed or suggested as a locking system where pushing in the direction of plug insertion has any effect as claimed in claim 1.

The features of Claim 1 are not disclosed or suggested in Shuey et al. (4,477,022). Therefore, the Examiner's rejection of claim 1 based upon Shuey et al. (4,477,022) should be reversed.

Group 2 (Claims 4 and 5)

In addition to the features of claim 1, claim 4 calls for the bayonet ring (rotatable about the counterplug housing) having at least one outward-pointing pin and that the plug housing has at least one lever arm which can be rotated vertically to the direction of plug insertion to grip the pin. In Figs. 1-2, Shuey et al., discloses a metal coupling ring (82) that is rotatable relative to housing (64) with no disclosure of a bayonet ring or a bayonet ring having at least one outward-pointing pin as claimed in the present invention. As disclosed in Clark et al. (column 4, lines 19-23 and figs. 1 and 2) pins (35) are located on either side of pin cavity (25) and fixed relative to pin cavity (25). There is no disclosure or suggestion of an outward pointed pin on a bayonet ring. The pin cavity (25) in Clark is not the same as a bayonet ring. Pin cavity (25) in Clark is the plug (or rather the counterplug) housing and not a bayonet ring

rotatable about the counterplug housing as claimed in claim 4. The combined features of Claim 4 are not disclosed or suggested in Shuey et al., nor Clark et al. Hence, combining Shuey et al. and Clark cannot provide features which are not disclosed or suggested in either reference. Indeed, it would appear that if Shuey et al. was combined with Clark et al., the result would be that plug housing itself (not a bayonet ring) in Shuey et al. would be modified to replace the outer threads with outward pins as in Clark et al. This however is not the same as having a bayonet ring (rotatable about the plug housing) having at least one outward pointing pin as called for in claim 4. Therefore, the Examiner's rejection of claim 4 based upon Shuey et al. in view of Clark et al. should be reversed.

#### IX Conclusion

In view of the arguments presented above, it is respectfully requested that the Examiner's rejections of claims 1, 4 and 5 be reversed.

Respectfully submitted,

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4/26/02

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Denise Spaulding  
Name of Person Making Deposit

APPENDIXREJECTED CLAIMS

1. Electrical plug connectors with
  - a cylindrical plug,
  - a counterplug which is complementary to the plug,
  - a bayonet ring which is rotatable about a counterplug housing of the counterplug for locking the plug into the counterplug,characterized by the fact that the bayonet ring for the locking of the plug connector in the direction of plug insertion can be pushed on a housing of the plug until at least one locking device of the bayonet ring interlocks with the plug housing and that the bayonet ring for the unlocking of the plug connector can be rotated about the counterplug housing.
4. Plug connector according to Claim 1, characterized by the fact that the bayonet ring has at least one outward-pointing pin and that the plug housing has at least one lever arm which can be rotated vertically to the direction of plug insertion to grip the pin.
5. Plug connector according to Claim 4 characterized by the fact that the bayonet ring has two diametrically opposite pins and that the plug housing has two diametrically opposite L-shaped lever arms which are linked together by a substantively semicylindrical C-strap.